

Atlantic Richfield Company

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November 8, 2016

Mr. Gary Riley
US EPA Region 9
75 Hawthorne Street
San Francisco, CA 94105

Ms. Lynda Deschambault
US EPA Region 9
75 Hawthorne Street (SFD-7-2)
San Francisco, CA 94105

RE: Leviathan Monthly Report for October 2016

Dear Mr. Riley and Ms. Deschambault:

The following text describes activities conducted during the month of October 2016 at the Leviathan Mine Site (site) and activities anticipated to occur during the upcoming month. These activities are organized by work area [Aspen Seep, Channel Underdrain (CUD) and Delta Seep (DS)], and site-wide tasks. This progress report is being submitted in accordance with Paragraph 62 of the Administrative Settlement Agreement and Order on Consent for Removal Action (AOC) (effective January 21, 2009).

ACTIVITIES FOR OCTOBER

Aspen Seep

- Operated the Aspen Seep Bioreactor (ASB) Treatment System in recirculation mode during the month of October. Quarterly enhanced influent and effluent sampling occurred on October 13, 2016. The current available water quality data for the October 13, 2016 sampling event is presented in Table 1. Recent influent flow rate, pH, and ORP field data are summarized in Table 2.
- Finalized ASB Treatment System solids management. The sludge dewatering filtrate analytical results from the September 16 and September 21, 2016 sampling events are presented in Table 1. On October 20, 2016, Atlantic Richfield submitted to US EPA a Waste Material Off-Site Shipment Notification Letter for disposal of two 25 cubic yard fabric lined filter bins that contained dewatered treatment generated sludge from the ASB Treatment System. The waste was shipped offsite on October 21, 2016.
- Propane was delivered on October 10, 2016.
- Sodium Hydroxide was delivered on October 11, 2016.
- Ethanol was delivered on October 12, 2016.
- Winterization activities were completed on October 27, 2016.

A BP affiliated company



CUD and DS

- Compliance sampling was completed on October 10, 2016 for the High Density Sludge (HDS) Treatment Plant influent and effluent, CUD and DS sampling locations. The available analytical results from the October 10, 2016 sampling event are presented in Table 3. Flow rates recorded for the CUD, DS and treated water discharge from the HDS Treatment Plant are included in Table 4. A summary of the HDS Treatment Plant operational data for October 2016 are presented in Table 5.
- The influent flow rate into the HDS Treatment Plant from October 1 through October 12, 2016 was modulated between 25 gallons per minute (gpm) and 100 gpm to lower Pond 4 water level in preparation for winter.
- On October 5, 2016 a Victaulic™ grooved coupling on the discharge line of the Delta Seep Transfer (DST) pump failed resulting in a loss of conveyance between DST and Pond 4 for less than 24 hours. Atlantic Richfield contacted US EPA on October 6, 2016 as notification. Capture at the Delta Seep tank on Leviathan Creek was maintained throughout this period, and pH readings in Leviathan Creek below the Delta Seep capture area did not indicate that any flow returned to Leviathan Creek from the DST area or that this incident otherwise affected surface water quality. On October 12, 2016 Atlantic Richfield provided a Technical Memorandum further explaining the background and the mitigations.
- On October 12, 2016, the HDS Treatment System was shut down for the winter. The CUD, DST & DS capture and conveyance systems were also stopped. Atlantic Richfield submitted to US EPA an email describing the event.
- Winterization activities began on October 12, 2016.
- Lime was delivered on October 20, 2016.
- On October 20, 2016, Atlantic Richfield submitted to US EPA a Waste Material Off -Site Shipment Notification Letter for disposal of two 25 cubic yard fabric lined filter bins that contained dewatered treatment generated sludge from the HDS Treatment System. The waste was shipped offsite on October 21, 2016.
- On October 25, 2016, Atlantic Richfield submitted to US EPA a Waste Material Off -Site Shipment Notification Letter for disposal of one 25 cubic yard fabric lined filter bin that contained dewatered treatment generated sludge from the HDS Treatment System. The waste was shipped offsite on October 26, 2016.
- On October 27, 2016, Atlantic Richfield submitted to US EPA a Waste Material Off -Site Shipment Notification Letter for disposal of miscellaneous drummed waste from the site. The drummed waste was shipped offsite on November 1, 2016.
- Diesel was delivered on October 26, 2016 in preparation for winter.

Site-wide

- On October 21, 2016, the site office trailers were removed from the site.
- Continued updating the Leviathan Mine Project Database with data from Atlantic Richfield and various agencies.
- On October 18, 2016, a conference call was conducted with the US EPA to provide a general progress update.

November 8, 2016

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- On October 27, 2016, the construction of the conveyance system between the Upper Ponds (Ponds 1 and 2 South) and Pond 4 was stopped for the winter, with all but a few minor construction tasks completed. These activities will continue in early spring of 2017.

ACTIVITIES FOR UPCOMING MONTH

Aspen Seep

- Continue operation of the ASB Treatment System in recirculation mode and complete the LAS O&M and compliance sampling event as outlined in the RAWP.

CUD and DS

- Complete winterization activities including securing the diesel power generators.

Site-wide

- Continue to provide project progress updates to the US EPA via conference call. The next conference call is currently scheduled for November 15, 2016.

If you have any questions or comments, please feel free to contact me at (657) 529-4537 or via e-mail at Anthony.Brown@bp.com.

Sincerely,

For

Tony Brown
Project Manager

Attachments:

- Table 1 – Aspen Seep Bioreactor Treatment System – Compliance Sample Results
- Table 2 – Aspen Seep Bioreactor Treatment System – Recent Flow, pH, and ORP Field Measurements
- Table 3 – High Density Sludge Treatment Plant – Compliance Sample Results
- Table 4 – Channel Underdrain, Delta Seep, and HDS Treatment Plant – Flow Rates
- Table 5 – High Density Sludge Treatment Plant – Operational Data Summary

cc: Douglas Carey, Lahontan Regional Water Quality Control Board
Ronald Halsey, Atlantic Richfield Company
Nathan Block, BP
Jack Marjerison, Atlantic Richfield Company
Reginald Ilao, Atlantic Richfield Company
Adam Cohen, Esq., Davis Graham & Stubbs LLP

Dave McCarthy, Copper Environmental Consulting

Marc Lombardi, Amec Foster Wheeler Environment & Infrastructure, Inc.

Sandy Riese, EnSci, Inc.

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 IRU↑ \$SSURYDOLRI L ORGLLFADLRLQVWRLWKHL 5HFRYDOL\$VALRQ^L DW WKHL /HYLDWGLWOKQ^L RU^L HTXDO^L VR^L WKHL PHWKRL GHWFHWRLQ^L OLPIW^L
 OHRUDQXP^L♂84 64^L (3\$PJL^L !!←□
 %L+&RPSRAGZDVL GHWFHWGL LQL WKHL EODQNL DOGL LQL WKHL VDPSON^L
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)PJ↑ + 06^L DOGL RU^L 06^L 5HFRYHJ^L LV^L RWLGH^L DFRHSDQFH^L OLPIW^L
 A^L + ,QWALXPHQW^L UHDWGL^L 48^L LV^L RWLGH^L DFRHSDQFH^L OLPIW^L
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±◀ L 7KH\ RSH-LDWLRQDO 10RZL UDWL LV L UHSRUWHL L L :DWHL GLVFKDWHL GRW\ CRW DQZD\ VL RFFXUL + L KRXUV\ SHU\ GD\ ▲
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